Application No.: 10/589,470 Amendment under 37 C.F.R. §1.111
Art Unit: 1793 Attorney Docket No.: 062893

## **AMENDMENTS TO THE CLAIMS**

This listing of claims replaces all prior versions of claims in the application.

## **Listing of Claims**

1. (Currently amended): A method for preparing a radially anisotropic annular sintered magnet, comprising the steps of: using

preparing an annular magnet compacting mold in which a core is at least partially made of a ferromagnetic material having a saturation magnetic flux density of at least 0.5 T[[,]]:

charging a mold cavity with a magnet powder[[,]];

compacting the magnet powder while applying an orienting magnetic field according to the vertical compacting in horizontal magnetic field process[[,]]; and

sintering the resulting compact, <del>characterized in that</del>

wherein the method includes at least one of operations (i) to (iii) of:

- (i) once applying a magnetic field, rotating the magnet powder an angle of 90° in a circumferential direction of the mold, and then applying a magnetic field again;
- (ii) once applying a magnetic field, rotating the magnetic field-generating coils an angle of 90° in a circumferential direction of the mold and relative to the magnet powder, and then applying a magnetic field again; and
- (iii) disposing two sets of magnetic field-generating coil pairs so as to surround the periphery of a mold and such that the directions of applied magnetic fields associated with

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the coil pairs are orthogonal with each other, applying a magnetic field with one coil pair, and

then applying a magnetic field with the other coil pair,

thereby producing a radially anisotropic annular sintered magnet having a remanence, in

which the remanence in a radial direction of the annulus increases and decreases at intervals of

90° in a circumferential direction of the annulus, and the remanence in a radial direction over the

entire circumference of the annulus has a maximum of 0.95 to 1.60 T and a minimum equal to 50

to 95% of the maximum,

wherein said radially anisotropic annular magnet has an inner diameter of up to 90mm

and an (inner diameter)/(outer diameter) ratio from 0.3 to 0.7.

2. (Original): A method for preparing a radially anisotropic annular sintered magnet

according to claim 1, wherein the magnetic field to be applied to the magnet powder during the

one operation immediately before compaction or during compaction has a strength of  $1.25 \times 10^5/\pi$ 

to  $2 \times 10^6 / \pi \text{ A/m}$ .

3. (Original): A method for preparing an annular multi-pole magnet for a permanent

magnet motor, comprising magnetizing the radially anisotropic annular sintered magnet prepared

by the method of claim 1 or 2 in 4n poles (wherein n is an integer of 1 to 20) so that the boundary

between N and S poles is located within the range that is centered at the radial direction where

the remanence exhibits the minimum and extends  $\pm 10^{\circ}$  therefrom in a circumferential direction.

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4. (New): A method for preparing a radially anisotropic annular sintered magnet according to claim 1, wherein the (inner diameter)/(outer diameter) ratio being from 0.43 to 0.67.